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The 2022 Communications Marketplace Report: Timely FCC Action Could Accelerate Next-Gen Broadband Deployment

by

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The Federal Communications Commission released the latest iteration of its *Communications Marketplace Report* on December 30, 2022. The report cites numerous data points from 2020 and 2021 demonstrating that next-generation network services such as 5G mobile, fixed wireless access, cable-cellular hybrid wireless, and fiber broadband services are competitive and being rapidly deployed to Americans. Importantly, developments in 2022 that are not reflected in the report confirm the broadband market's vibrancy.

The FCC should promote continued competition and deployment. The Commission should focus efforts on repurposing the lower 3 GHz band and other spectrum for commercial services. It also should impose fee caps and shot clocks on wireline infrastructure buildout in state and local rights-of-way. And in its Digital Discrimination rulemaking proceeding, the Commission should not adopt a rule that determines whether equal access exists based on disparate outcome rather than discriminatory intent. If it did so, this likely would have the effect of deterring investment and harming all Americans, including those who are the intended beneficiaries of the digital discrimination prohibition.

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Report Shows Next-Generation Broadband Services Advanced Strongly in 2020-2021

The FCC's *Communications Marketplace Reports* track developments within fixed terrestrial, mobile wireless, and satellite broadband market segments. Data points for 2020-2021 contained in its latest report show that innovation, investment, and competition have benefitted consumers of high-speed broadband services enabled by network upgrades and new deployments:

- **Deployments have increased Americans' access to broadband**. Between the end of 2019 and the end of 2021, "the number of fixed terrestrial residential connections capable of meeting a download speed threshold of 100 Mbps increased from approximately 66.4 million to 82.9 million, an increase of approximately 25%." And about 64% of households are located in census blocks with at least two options for services at 100/20 Mbps.[1] Additionally, "[s]ince 2018, the number of residential fixed connections in the United States has increased over 14%, from approximately 101.3 million connections in 2018 to over 115.5 million connections in 2021."[2] (These figures exclude satellite broadband, which will be discussed below.)

- **Strong fiber network growth.** Between the end of 2019 and the end of 2021, "residential fiber-to-the-premises (FTTP) connections increased from 16.3 million to 24.2 million, a 49% increase in two years."[3] Also, between 2017 and 2021, total U.S. households with access to FTTP increased from 29.3% to 44.7%, and rural households with FTTP access increased from 16% to 28%.[4]

- **Significant cable broadband network growth.** According to the report, cable DOCSIS 3.1 network technology showed "significant growth over the last six years."[5] Between the end of 2019 and the end of 2021, residential cable connections climbed from 67.1 million to 71.8 million.[6] Thus, "[c]able services continue to be the technology with the largest portion of residential fixed broadband connections."[7]

- **Rapid expansion of 5G network coverage.** At year's end 2021, approximately 98% of the U.S. population was covered by at least one 5G wireless services provider, 88% were covered by at least two 5G providers, and 58% were covered by at least three 5G providers.[8] As of late 2021, T-Mobile covered 94% of the U.S. population, AT&T covered 78%, and Verizon Wireless covered 67%.[9] At that time, 97% had access to 5G services with minimum advertised upload/download speeds of 35/3 Mbps, up from 71.4% from a year earlier. Also, 87.3% of Americans in rural areas had access to 5G

[1] FCC, Communications Marketplace Report, GN Docket No. 22-203, *2022 Communications Marketplace Report* (released December 30, 2022), at ¶ 16.
[2] *Id.* at ¶ 30.
[3] *Id.* at ¶ 20.
[4] *Id.* at ¶ 355.
[5] *Id*. at ¶ 23.
[6] *Id*. at ¶ 23.
[7] *Id*. at ¶ 30.
[8] *Id*. at ¶ 49.
[9] *Id*. at ¶ 50.

services at 35/3 Mbps compared to about 28.5% a year earlier, and almost 89% in tribal areas had access to 5G at 35/3 Mbps, up from 56.6% at the end of 2020.[10] This expansion was enabled by increased wireless facilities, as the report cited CTIA's finding that the wireless industry built more cell sites in 2020 than in the prior three years combined.[11]

- **Rapid Expansion of 5G fixed wireless access (FWA) services.** At the end of 2021, residential FWA connections "increased from 1.5 million to 2.7 million, a 76% increase in two years."[12] And since 2018, terrestrial FWA services grew over 100%.[13] Also, "[a]s of December 2021, approximately 84% of the U.S. population lived in a census block that had access to terrestrial fixed wireless technology, compared to approximately 42% in December 2017."[14] Remarkably, "T-Mobile jumped from no population coverage in December 2019 to approximately 60% population coverage in December 2021 through newly providing terrestrial fixed wireless services," thereby covering more of the population than any other fixed provider.[15]

- **Promising growth for cable wireless MVNOs**. The report observed that subscribers to cable mobile virtual network operator (MVNO) services that use a hybrid wholesale/hotspot model increased in 2021, with Comcast's Xfinity Mobile attaining 4 million subscribers, Charter Communications' Spectrum Mobile attaining 3.6 million subscribers, and Altice USA attaining 186,000 subscribers.[16] As the report observed: "By bundling their mobile broadband services with their fixed broadband and other offerings, non-traditional competitors can provide their customers with plan options that traditional facilities-based mobile wireless providers do not offer to many of their customers."[17]

- **Significant rise in broadband speeds.** The report cited Ookla Speedtest datasets, which found that the mean upload/download speeds for fixed broadband was 195.5/72.9 Mbps at the end of 2021, with mean upload speeds having risen from 150.5 Mbps a year earlier.[18] And for 5G wireless, mean download/upload speeds were 187.7/23.5 Mbps at the end of 2021.[19] Additionally, the report acknowledged that terrestrial FWA speeds have increased, as "the percentage of the U.S. population that lived in census blocks had access to download speeds between 25 Mbps and 50 Mbps had more than quadrupled."[20] Furthermore: "[I]n 2017, only about 1% of the U.S. population in a census block covered by terrestrial fixed wireless technology had

[10] ¶ 346. (Fig III.A.3c).
[11] *Id*. at ¶ 113.
[12] *Id*. at ¶ 22.
[13] *Id*. at ¶ 30.
[14] *Id*. at ¶ 22.
[15] *Id*. at ¶ 28.
[16] *Id*. at ¶ 68.
[17] *Id*. at ¶ 167.
[18] *Id*. at ¶ 358.
[19] *Id*. at ¶ 360.
[20] *Id*. at ¶ 22.

access to download speeds between 250 Mbps and 500 Mbps; however, by 2021, that had increased seven-fold."[21]

- **Broadband has been backed by strong private market investment.** The report cites CTIA figures indicating that "mobile wireless service providers invested nearly $147 billion in their networks," in the last five years, "with service providers reporting $34.7 billion in capital investment in 2021, up 16.2% from $29.9 billion in 2020."[22] UBS data indicates that wireless providers made $34.8 billion in capital investments in 2021. The report also observes that "[i]n the last few years… the nationwide providers combined have steadily increased their capital investment,"[23] and that "[t]he heightened level of capital investment has helped speed up wireless deployments."[24] Furthermore, the report noted USTelecom's finding that "U.S. fixed broadband providers invested approximately $86 billion in capital expenditures in 2021, up from nearly $80 billion in 2020."[25]

Evidence From 2022 Shows More Strong Advances in Next-Gen Broadband Services

An obvious limit on the *2022 Communications Marketplace Report*'s efficacy is that its time focus ends at 2021. Industry and analyst data – *not* captured in the FCC's report – shows that the positive market trends continued in 2022 and that when it comes to broadband, American consumers in early 2023 are better off than they were a year ago:

- **Strong fiber network growth in 2022.** Third quarter 2022 reports from broadband Internet service providers show continued strong growth in fiber broadband networks. AT&T Fiber had 338,000 net subscriber additions, bringing its total to 6.93 million fiber broadband subscribers. Verizon gained 61,000 FiOS Internet subscribers, for a total of nearly 6.68 million FiOS subscribers. Lumen added 31,000 fiber broadband subscribers and raised its total fiber subscriber count to 889,000, up from 774,000 at the end of the third quarter of 2021. And Frontier added a company record 75,000 fiber broadband subscribers in the fourth quarter of 2022, with 17% more fiber subscribers than it had at the end of 2021. In addition to subscriber gains, broadband providers have continued to deploy fiber to reach many more potential subscribers. For instance, it was announced that "AT&T Fiber now has the ability to serve 18.5 million customer locations, and offers symmetrical speeds up to 5-Gigs across parts of its entire footprint of more than 100 metro areas." And Frontier announced in December 2022 that it has built fiber to a total of 5 million fiber locations, halfway to its target of 10 million fiber locations by 2025.

- **Rapid expansion of 5G network coverage.** By the end of 2022, the three nationwide wireless providers had sunset their 3G networks in order to repurpose more mid-band spectrum for their growing 5G networks. Also, AT&T and Verizon began putting C-

[21] *Id*. at ¶ 22.
[22] *Id*. at ¶ 112.
[23] *Id*. at ¶ 112.
[24] *Id*. at ¶ 113.
[25] *Id*. at ¶ 23 fn.58.

band licensed spectrum into use for 5G networks, enabling increased capacity and speeds.

- **Continued rapid expansion of 5G FWA services in 2022.** For the third quarter of 2022, Verizon Wireless reported an impressive 342,000 fixed wireless net additions – a quarterly record for Verizon Wireless. And T-Mobile reported that it added a record high 578,000 high speed Internet customers. Trade press reports indicate that FWA are putting competitive pressure on cable broadband providers as well as DSL services.

- **Cable speed boosts in 2022 and 10G rollouts announced for 2023.** In fall 2022, Comcast and Charter each announced their plans to roll out its 10G multi-gigabit cable broadband services across their footprints nationwide, starting in 2023. Leading up to its 10G rollout, Comcast announced the rollout of 2 Gbps speed offerings combined with 5x-to-10x faster upload speeds to 34 cities and towns by the end of 2022 – and extending to over 50 million homes and businesses by the end of 2025. Charter is implementing a three-year "10G" upgrade plan. Under the first phase, to take place over the course of 2023, 15% of its network footprint will be enabled to provide 2 Gbps/1 Gbps speeds.

- **Continued growth for cable wireless MVNOs in 2022.** Xfinity Mobile and Spectrum Mobile posted record net subscriber additions for their MVNO services in the third quarter of 2022, adding 330,000 and 396,000 each. Their subscriber totals grew to 4.95 million and 4.7 million, respectively. On January 5, 2023, Cox Communications announced the launch of its Cox Mobile MVNO offering across its geographic footprint.

- **Broadband speeds increased further in 2022.** The Ookla's Speedtest Global Index for January 2023 found mean fixed broadband speeds of 256.03/94.05 Mbps and mean mobile broadband speeds of 151.45/16.24 Mbps. Additionally, Ookla's Speedtest Global Index for the fourth quarter of 2022 found that T-Mobile's median 5G download speed was 216.56 Mbps – up from 193.06 Mbps the prior quarter. Download speeds for Verizon Wireless rose to 127.95 Mbps, and AT&T stood to 85.39 Mbps. Furthermore, Open Vault's Q3 2022 Broadband Insights report showed the percentage of customers taking speed tiers offering 200-400 Mbps doubled year on year, with, the adoption of faster speeds driving average upload/download speeds up from 253.9/17.7 Mbps to 347.8 Mbps/23.5 Mbps.

Satellite Broadband Has Potential to Significantly Enhance Consumer Access

In 2023, satellite broadband is likely to be a significant factor in the enhancement of the market's competitiveness and reaching Americans previously unserved by high-speed broadband. The *2022 Communications Marketplace Report* acknowledged that ViaSat and HughesNet offer advertised speeds meeting the 25/3 Mbps threshold, but that their combined 1.7 million residential broadband subscribership at the end of 2021 marked a 6% decline over the prior year. And the report raised questions about the consistency of those providers in

delivering advertised speeds to customers.[26] But the report noted the "the rapid expansion of LEO [low earth orbit] satellite constellations and the emergence of new players in the commercial satellite industry," enabled by reduced launch costs and other innovations. According to the report, 98% of satellites launched in 2021 were deployed into LEO to provide Internet access. More have taken place since 2021, with OneWeb announcing the successful launch of 40 additional satellites as recently as January 9, 2023. And more launches are in the works, with the Commission issuing a December 2022 order authorizing SpaceX to launch and deploy up to 7,500 more satellites for Starlink. Additional satellites enable more users to access broadband with better capacity and speeds, as well as with improved latency over prior generations of satellite Internet service.

The FCC Should Act to Further Promote Broadband Competition and Deployment in 2023

The *2022 Communications Marketplace Report* lists some steps or general areas for policy action to encourage continued broadband competition and infrastructure deployment to more Americans. But here are some more specific actions that are needed to put the broadband market on the best footing to benefit consumers in 2023 and beyond:

- **Prioritize the lower 3 GHz band and other spectrum bands for repurposing for commercial services.** The report acknowledges that "[s]pectrum is a critical input in the provision of mobile wireless services,"[27] and it is also essential for fixed wireless and satellite broadband services. And the supply of these inputs needs to be increased to accommodate projected future increases in demand. Accordingly, the Commission ought to seek every opportunity for identifying and readying spectrum that might realistically be suitable for commercial services. Its most immediate priority should be helping to repurpose more spectrum in the lower 3GHz band for commercial licensed use pursuant to a competitive bidding auction. The agency also ought to pursue spectrum repurposing opportunities in the 4 GHz and 7 GHz bands.

- **Adopt fee caps and "shot clocks" on deployments of wireline facilities in state and local rights-of-way.** Local permitting and regulatory obstacles inhibit timely deployment of broadband infrastructure to unserved and underserved communities. Such obstacles include unreasonably high fees as well as unreasonable delays or denials of permit applications for deploying wireline facilities in rights-of-ways. The FCC should amend rules by limiting fees that state and local governments can charge for deploying infrastructure in rights-of-ways to reasonable estimates of costs. Additionally, the Commission set "shot clock" timeframes within which state and local governments must reach a decision on permit applications involving rights-of-ways. These agency actions would reduce unnecessary costs and delays, thereby speeding deployment of wireline broadband infrastructure.

- **Ensure equitable access to broadband by prohibiting intentional discrimination, and not by imposing disparate impact liability.** In its Digital Discrimination rulemaking proceeding, the Commission should bar intentional discrimination in

[26] *Id*. at ¶ 199.
[27] *Id*. at ¶82.

broadband marketplace practices. But it should not impose disparate impact liability on facially nondiscriminatory practices that are claimed to have unintentionally resulted in different outcomes in broadband access among protected groups. If the Commission were to impose disparate impact liability, it would create significant legal uncertainty and it likely would have the effect of deterring investment and harming all Americans, including the intended beneficiaries of the digital discrimination prohibition. The Commission should direct subsidy support to any identifiable areas where there are gaps or disparities in broadband access or adoption.

Conclusion

Data cited throughout the FCC's *2022 Communications Marketplace Report* showed that the broadband market was competitive and that next-gen services reached many more Americans between the start of 2020 and the end of 2021. Sources not cited in the report regarding developments in 2022 confirm that the broadband market remains vibrant, with consumers benefiting from faster and more capacious services and with new competitive choices enabled by broadband services like fiber, 5G FWA, and cable MVNO wireless. The FCC can help ensure the continuation of these positive trends by repurposing lower 3 GHz band and other spectrum, adopting data caps and shot clocks on wireline sitings in state and local rights-of-way, and opening a proceeding to propose universal service contribution reforms in order to put the system on sound financial footing for broadband access.

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Further Readings

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